Office, and of several cooperating friends in South America.

The precipitation on the coast of Peru during 1925 has been recorded as certainly the heaviest since 1891; but there are reasons for believing that the conditions have not been paralleled during the course of at least six centuries. Prior to March, 1925, for example, the mud walls of the prehistoric fortress of Chan Chan, near Trujillo, still bore clearly the ancient reliefs and hieroglyphics of their builders, but the rainfall of a few subsequent weeks entirely obliterated them. The destruction of life in the sea, through a process which the writer has elsewhere described, was also unprecedented within human memory. Under date of January 30, 1926, Mr. Francisco Ballén, director of the Peruvian National Guano Administration, writes that probably two-thirds of the sea-bird population of the Peruvian coast, as existing in December, 1924, perished during the following months of unfavorable oceanic conditions.

Fortunately the serious economic effects of the countercurrent and its sequelae have simplified the study of meteorological and oceanographic problems by encouraging the recording of precise data. Through the interest of the American ambassador in Lima, of Maj. Otto Holstein, of Trujillo, and of other friends and correspondents in the service of numerous Peruvian industrial organizations, tabulated records of the climatic and oceanic régime are now being received regularly. These are deposited in the files of the American Geographical Society of New York, and their subsequent interpretation can not fail to go far toward illuminating our faint understanding of one of the most remarkable geographic phenomena of our time.—*Robert C. Murphy.*

NOTES AND ABSTRACTS

E. W. BLISS ON BRITISH WINTERS IN RELATION TO WORLD WEATHER

The author in continuance of his previous work on correlation of world weather correlates the mean winter temperatures of Greenwich with elements of the weather in various parts of the world.

The correlation coefficients with pressure, temperature, and rainfall in various quarters of the earth are shown in the exhibit below.

Number of coefficients 0.4 or greater

	Preceding quarter	Contemporary quarter	Succeeding quarters
Pressure	1	4	0
Temperature	8	6	3
Rainfall, etc.	1	1	1

Ten of these coefficients are with the two preceding quarters, eleven with the one contemporary quarter and four with the two subsequent quarters. The large coefficients are therefore mainly with previous and contemporary quarters. The author concludes as follows:

> Out of 310 correlation coefficients with Greenwich temperature of December to February as representing winter in Northwest Europe the largest appear to indicate the following relationships—
> (1) With pressure of the previous summer at Cairo.
> (2) With temperature of the previous June to August at Madras, Samoa, Batavia, and Perth.
> (3) With the previous Nile flood, the relationship here being inverse.
> The results indicate that conditions in the Southern Hemisphere play a part comparable with that of the North Atlantic oscillation in controlling subsequent winter weather in the British Isles.—*A. J. H.*

AEROLOGICAL WORK IN JAPAN[1]

This is the first published report of the Japanese Aerological Observatory at Tateno, where there is maintained a most complete meteorological equipment, including facilities for making aerological observations by means of pilot balloons, kites, sounding balloons, and captive balloons. This report contains data procured by double-theodolite pilot balloon observations only. The records cover two years (March, 1923–February, 1925) and total 1,030 observations. The balloons used weighed from 10 to 120 grams and the rates of ascent varied between 100 and 350 meters per minute.

There are included in the report a very complete history and description of the station, equipment, etc. Tables showing the wind velocity and direction at the various altitudes for successive minutes are given for each pilot balloon observation. Graphs are included, showing the:

Mean wind velocity (0–10 km.) for each season and for the year.

Mean annual wind velocity (0–2 km.) for 6 a. m., 10 a. m., and 2 p. m.

Mean wind direction (0–10 km.) for each season.

Mean wind direction (0–2 km.) for 6 a. m., 10 a. m., and 2 p. m. for each season.

Frequency of wind directions (0–10 km.) for each season.

Frequency of wind directions (0–2 km.) for 6 a. m., 10 a. m., and 2 p. m. for each season.

The report closes with a discussion of the agreement between the observed ascensional rates of pilot balloons and those determined by formula. A change in the formula was made in order to obtain a closer agreement with the average observed rates. Closer agreement was found to obtain between the observed rates and those computed from the formula used by the U. S. Weather Bureau than those indicated by the Dines's formula.

Among the conclusions cited are the following:

1. The observed rates were found to be generally greater than those computed from formula. (U. S. Signal Corps and Dines).

2. For the rate of 100 m/m the values almost coincide but the actual rate becomes 20% greater for rates of 200 m/m.

3. The following new formula was devised to obtain closer agreement with the observed data.

$$V = 74.6 \left\{ \frac{A}{(A+B)^{2/3}} \right\}^{\frac{1}{1.53}}$$

This fits closely for the stratum 1 to 3 km. but to reduce the values computed from the above formula to the mean observed values from 1 to 10 km. they must be multiplied by the factor $\frac{1000}{1071} = 0.934$.

4. The rate of ascent is greatest at 2 p. m. and least at 6 a. m. It is greater in winter than in summer.

5. The rate is greatest near the ground and decreases more and more upward but at 8 km. it increases again.

[1] Abstract of "Roporto de la Aerologia Observatorio de Tateno. Nol. By W. Oishi. (The report was translated by Mr. W. W. Reed from the original Esperanto.)